Here are the latest questions from the Atari developers
mailbag as answered by John Feagans, Director of Software
Technology. Leave questions on Compuserve for PIN 70007,1072
or GO PCS57 for Atari developer SIG information.

This months contents

1. Corrections

There is an interesting bug in the current version of
gemstart.s that is being distributed. If you select memory
model 4 and do not define the stack length, your program will
bomb with a bus error. This is caused by a statement that
generates a movea instruction. It turns out that of all the
move instructions, the move address instruction does not set
conditions codes. You can make a quick fix by adding a tst
instruction immediately following the movea.

2. BIOS

Q: When I use the SetScreen() call to switch video buffers
my pictures seem to come out all messed up. They look as
though they are shifted, out of line or the colors messed up.
When I load a file directly to the existing screen buffer,
everything seems fine. Is there some trick?

A: There is no trick to allocating screen buffers if you
make sure they are aligned on 256 byte boundaries of the
address. Here is a way to allocate a buffer and create a
starting address that begins on a 256 byte boundary:

```
char *pointer ;
pointer = (Malloc(32000+256) & FFFFFF00) + 256 ;
```

3. DOS

Q: What is the easiest way to enter supervisor mode to execute some code?

A: Use the SUPEXEC extended bios function. This call allows you to pass the address of a subroutine terminated by an rts to be executed in supervisor mode. This subroutine may return a value in DO which is not harmed. Supervisor mode is necessary any time you want to access such things as the operating system variables which are published in the Hitchhiker's guide to the BIOS.

4. VDI

Q: My program works fine except when I have GDOS installed. I cannot get any screen output. Any ideas?

A: The Abacus software book, "Atari ST Graphics and Sound", has a typographical error on page 54. There is a C example and a Pascal example of open virtual workstation. The problem with the C example is that this Abacus book does not initialize the int_in array as zero-based--the for loop starts at 1. We have also added the extended bios call to find out what resolution is currently being displayed and initialize the correct ID. This is important when using GDOS so you will use the resolution specific fonts rather than the default fonts. The correct subroutine should be as follows:

```
open_vwork()
{
int  i;
     for (i = 0; <10; i++)
        int_in[i] = 0 ;
     int_in[10] = Getrez() + 2;
     v_opnwk(int_in, &handle, int_out);
}
```

5. AES

Q: When I display a menu, why do I get the busy bee and not the arrow?

A: The bee is the mouse form set when your application was loaded. Your program must set it to the arrow -- or whatever cursor form you wish to use for pointing. Do this with the GRAF_MOUSE call. The first parameter is a predefined mouse form to use:

```
0   - arrow
1   - text cursor
2   - hourglass
3   - hand with pointing finger
4   - flat hand
5   - thin cross hair
6   - thich cross hair
7   - outline cross hair
255 - user defined with gr_mofaddr
256 - hide mouse form
257 - show mouse form
```

Q: How can I keep certain menus from dropping down?

A: Use menu_ienable with the object number of the corresponding title on the title bar to disable (gray) that title. In a context sensitive application you can re-enable the title when it is appropriate.

Q: I have been doing a VT52 clear screen. This is O.K. most of the time but when I use a file selection box (when closed), it reveals the gray and black background. Is there just no way I can get rid of it?

A: You need to open a window so you can get redraw messages. It is possible to make a window that is the full size of the screen and has no visible parts. That is the technique we used at Atari to make the VT52 emulator desk accessory. When you get the redraws you can rectangle file areas to be any color or pattern you desire.

6. Development Tools

Q: I have numerous assembler source files full of data. How do I create a file for my program to read without program relocation information?

A: You can write a simple program to read the data linked with the program from memory to disk. You may want to look at the rscreate program on the RCS disk for ideas.

Q: Where is the documentation on link68?

A: Look in chapter 9 of the CP/M 68k programmer's guide (GEMDOS programmer's guide).

7. New On Compuserve

In data library 7 (for Registered Atari Developers only) in
the Atari Developers SIG on Compuserve, the following files
are new this month:
XMAIN.O
XOPEN.O
GEMSTART.S
README.
    The purpose of this set of files is to make expansion of
wild card file names, e.g. *.c, work correctly when entered
on a command tail and passed through the Alcyon C run-time
library through argv and argc. To take advantage of this
feature, assemble gemstart.s to the memory model that you
prefer. Link xmain and xopen ahead of the gemlib in your
link step as follows:

    prog.68k=gemstart,prog,xmain,xopen,gemlib,libf